

Water /Sewer Systems Concession Lease Update

Presented by:

City of Allentown

Office
of
Compliance

Department
of
Public Works



610-437-7587

August 7, 2019

Introduction



Wastewater Treatment

13.2
Billion
gallons of
wastewater
treated in
2018



Wastewater Treatment Plant

		Performance Standards	NPDES Discharge Permit Effluent Limitations		
Parameter	LCA	Monthly Average Effluent Concentration	Monthly Average Effluent Limit	Weekly Average Effluent Limit	Instantaneous (Daily) Maximum Effluent Limit
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	Met Requirement	≤ 12 mg/L	20 mg/L	30 mg/L	40 mg/L
CBOD5 Percent Removal	Met Requirement	≥ 90 %	≥90 %	---	---
Total Suspended Solids (TSS)	Met Requirement	≤12 mg/L	30 mg/L	45 mg/L	60 mg/L
TSS Percent Removal	Met Requirement	≥90 %	≥90 %	---	---
Ammonia Nitrogen (NH ₃ -N) May 1 to October 31	Met Requirement	≤4.0 mg/L	5 mg/L	---	10 mg/L
Ammonia Nitrogen November 1 to April 30	Met Requirement	≤12.4 mg/L	15 mg/L	---	30 mg/L
Fecal Coliform May 1 to September 31	Met Requirement	200/100 ml geometric mean			
Fecal Coliform October 1 to April 30	Met Requirement	2,000/100 ml geometric mean			
Residual Chlorine	Met Requirement	≤0.5 mg/L			
pH	Met Requirement	6.0 to 9.0 SU			
Dissolved Oxygen	Met Requirement	5.0 mg/L minimum			



Wastewater Treatment Plant

Headworks Overflow



Outfall 003

No Odor Complaints

Wastewater Treatment Plant



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

In
November
2016,
comments to
the 3rd draft
NPDES Permit
were submitted
to PaDEP.
No response
has been given.



Regulatory Update

Biosolids



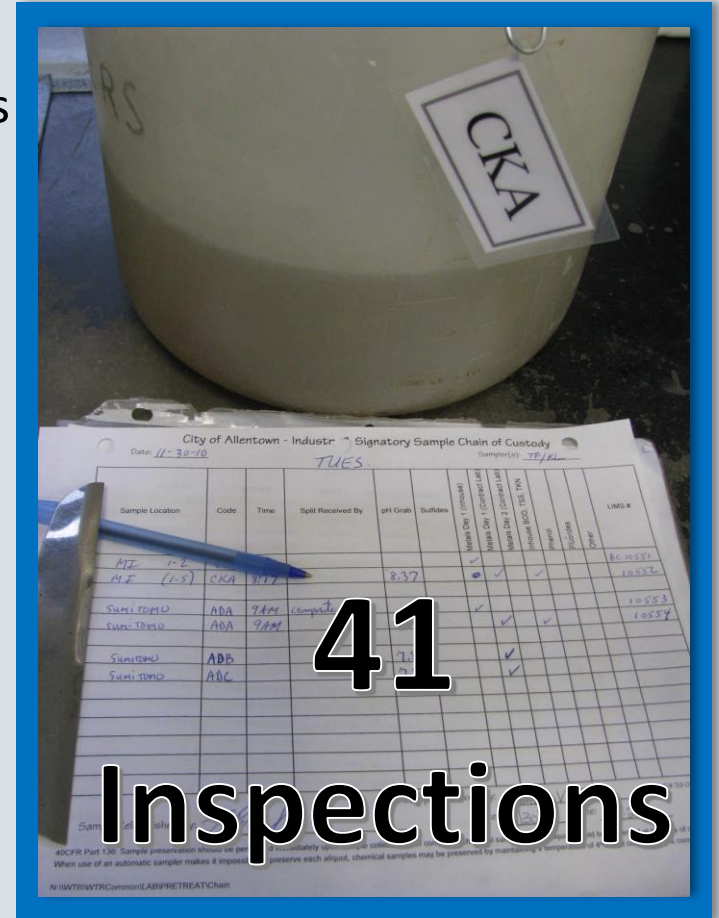
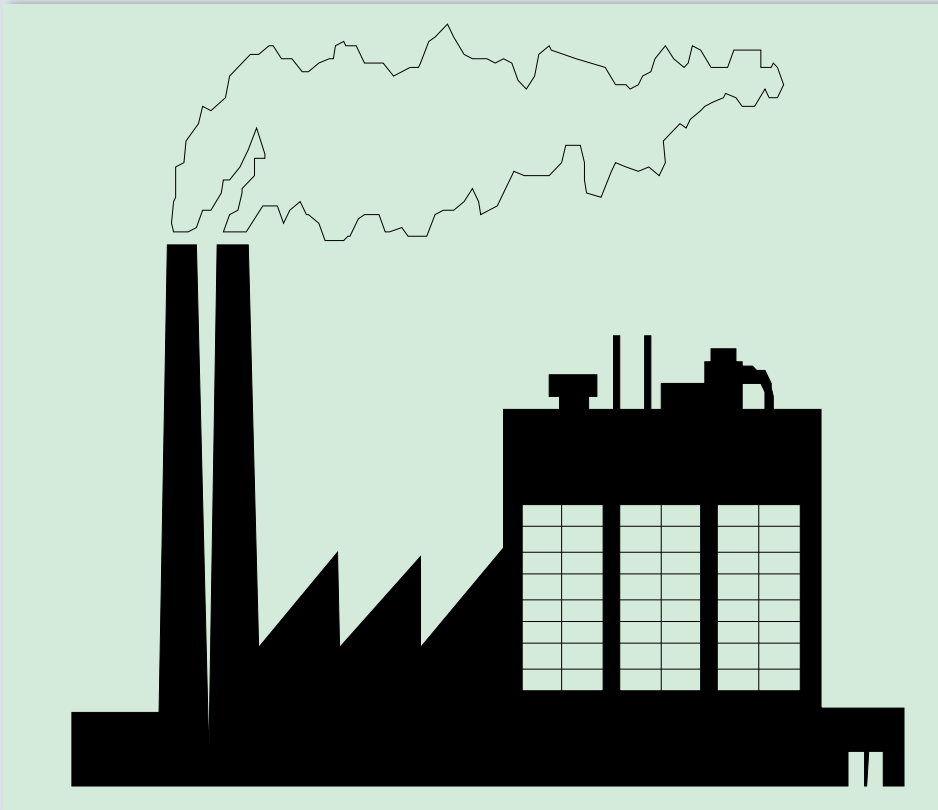
• Deliver to
Farm

• Land apply

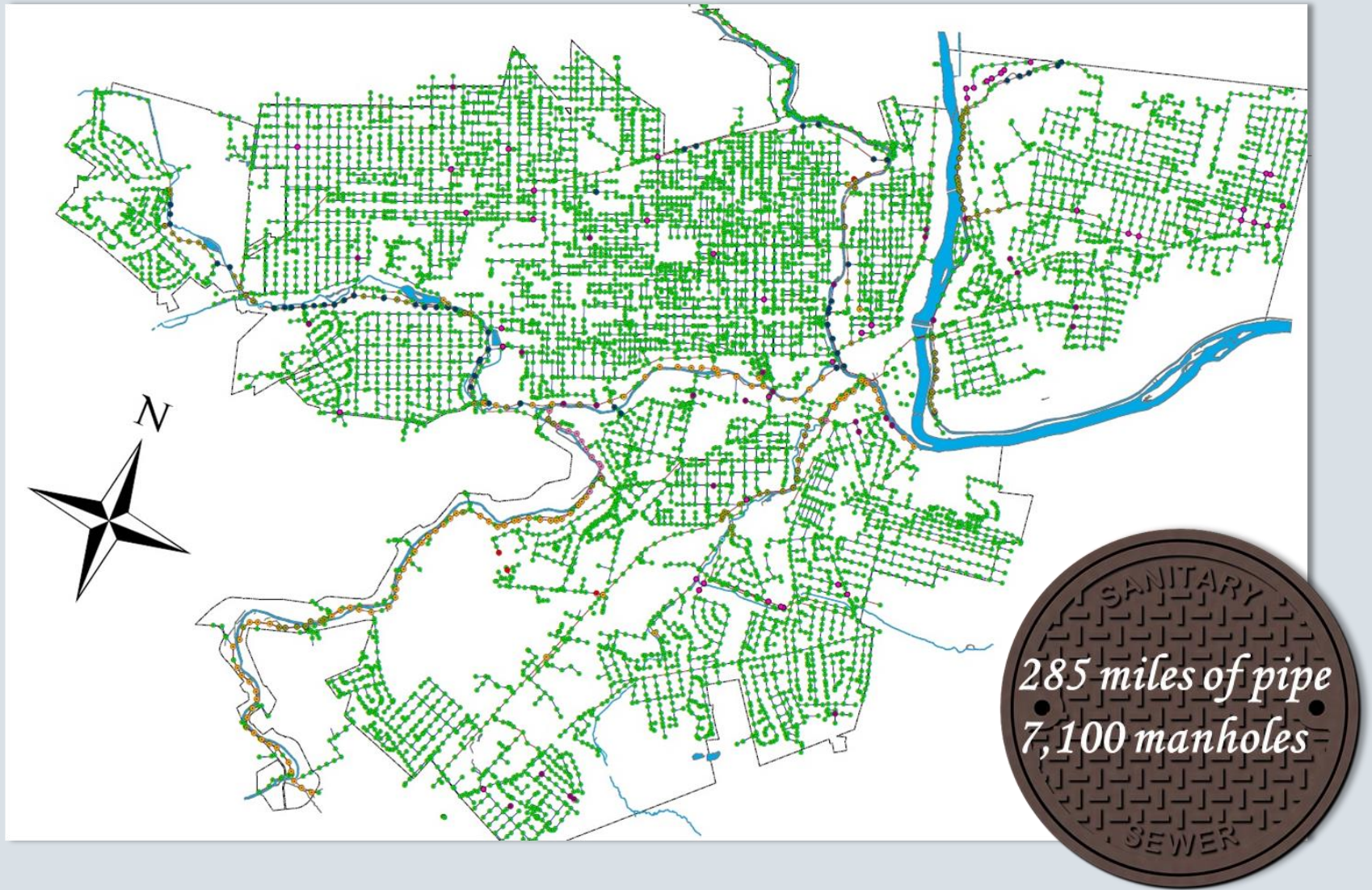
• Improved
Soil
Conditions

Industrial Pretreatment

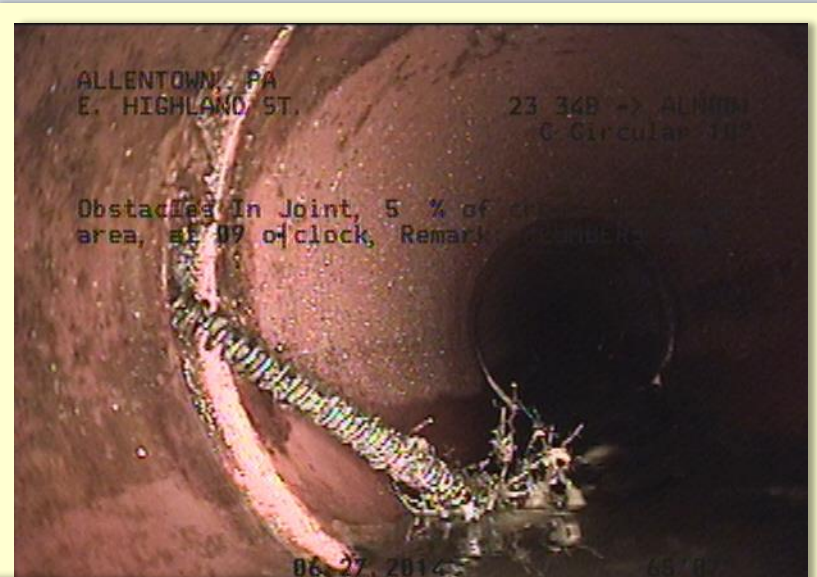
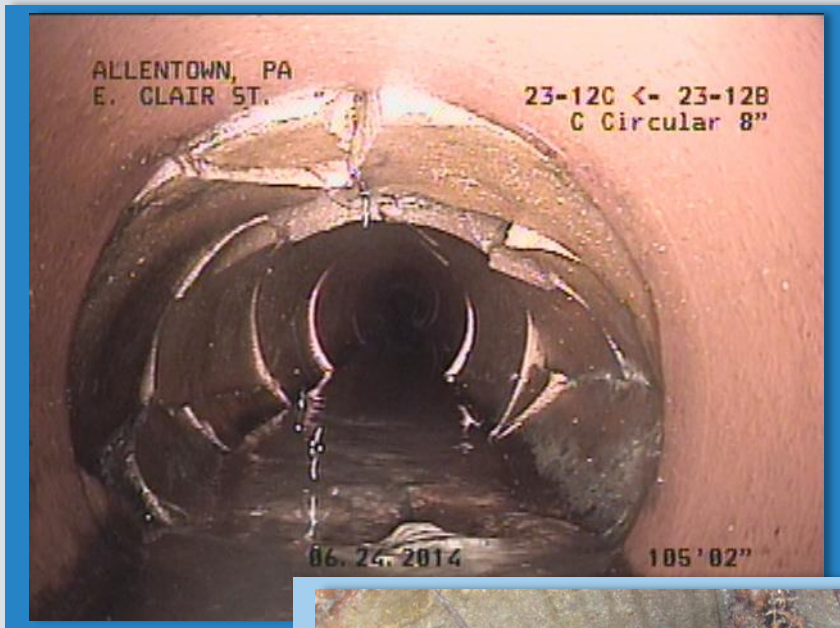
- Control interference with WWTP operations
- Control pass through of pollutants
- Control sludge quality
- Control exposure of workers to chemical hazards



Sewage Collection System



Sewage Collection System



CCTV Minimum
linear footage
requirement:
55,000 feet

Sewage Collection System

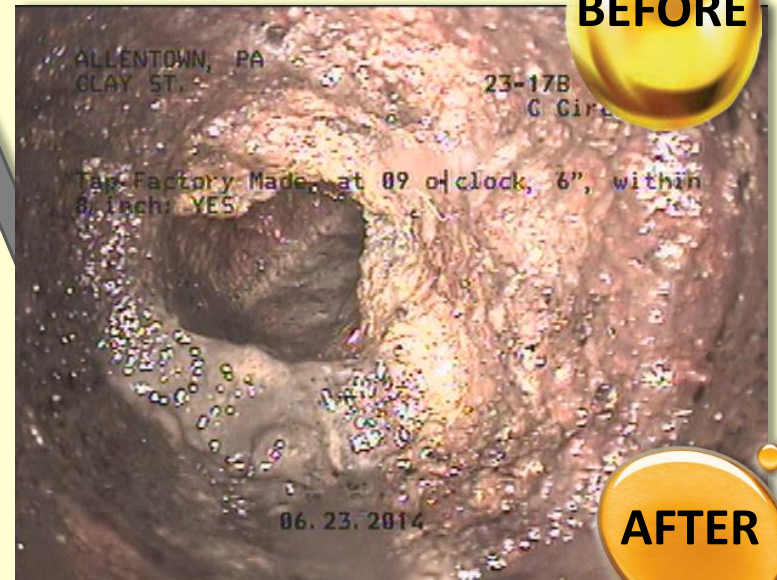
Tree roots
block sewer pipe.

Maintain the lateral
from your home.

Residents
can help
STOP
SSO's



BEFORE

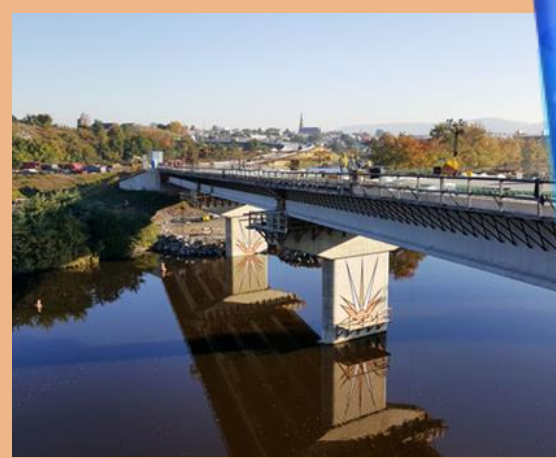


AFTER

Drinking Water Treatment and Production



*Finished Water is produced
from 4 sources:
Little Lehigh Creek, Schantz Spring,
Crystal Spring & Lehigh River*



The Allentown
Water Filtration
Plant averaged
21.78 MGD



50% of finished water is from the Springs

Drinking Water Treatment and Production



Drinking Water Treatment and Production

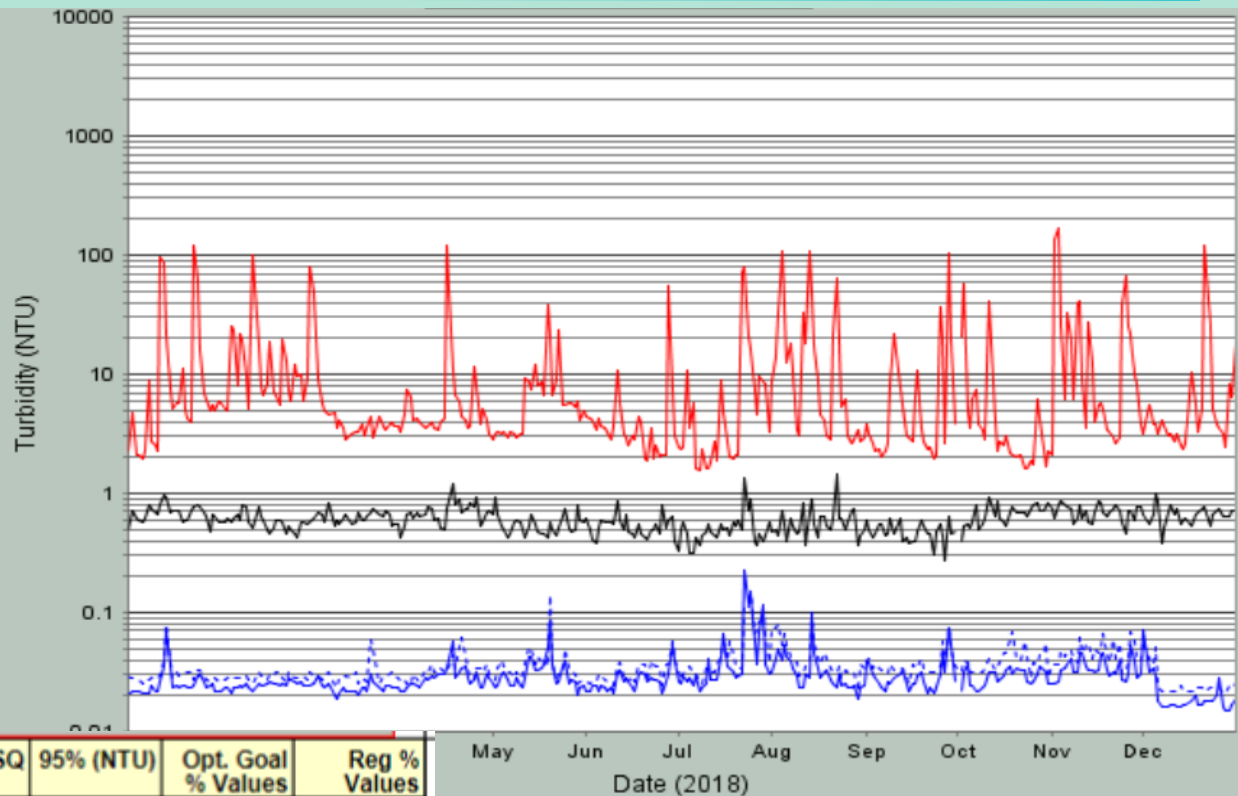
Turbidity:

Law: Less than

Or equal to **0.3 NTU**

Partnership: Less than
or equal to **0.1 NTU**

Allentown:
Equal to **0.03 NTU**



ANNUAL DATA	Avg (NTU)	Min (NTU)	Max (NTU)	RSQ	95% (NTU)	Opt. Goal % Values	Reg % Values
Raw Turbidity	12.02	1.53	166.7	n/a	56.06	n/a	n/a
Max. Settled Turbidity	0.6	0.27	1.43	0.06	0.84	100	n/a
Max. Filtered Turbidity	0.036	0	0.147	0.02	0.063	98.9	n/a
Combined Filtered Turbidity	0.03	0.015	0.228	0.69	0.05	98.9	100

RSQ = Correlation Coefficient for two selected data sets.

95% = 95th Percentile value for data set.

Opt. Goal = % of values in data set that are less than or equal to the selected optimization turbidity goal.

Reg. = % of values in data set that are less than or equal to the regulated turbidity requirement.

Partnership for Safe Water



Drinking Water Treatment and Production



**NO
Maximum
Contaminant
Levels
were exceeded.**



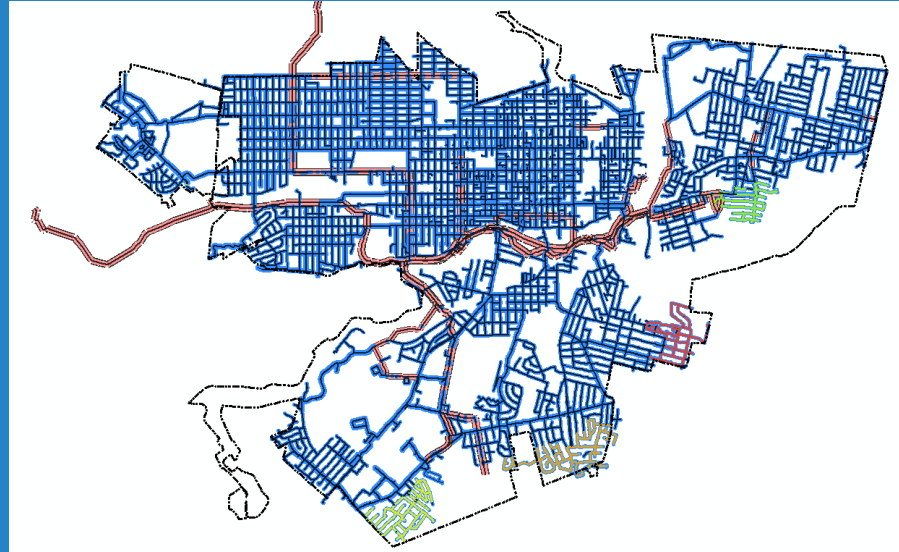
Contaminant Testing



Drinking Water Distribution System



325 Miles of Pipe



33,400 Service connections



8,060 Valves

Drinking Water Distribution System



Drinking Water Distribution System



Hydrants

Inspected

1,628

and

Tested

191.63

Miles of Pipe

Checked

for

leaks

2,452

**Valves
Exercised**



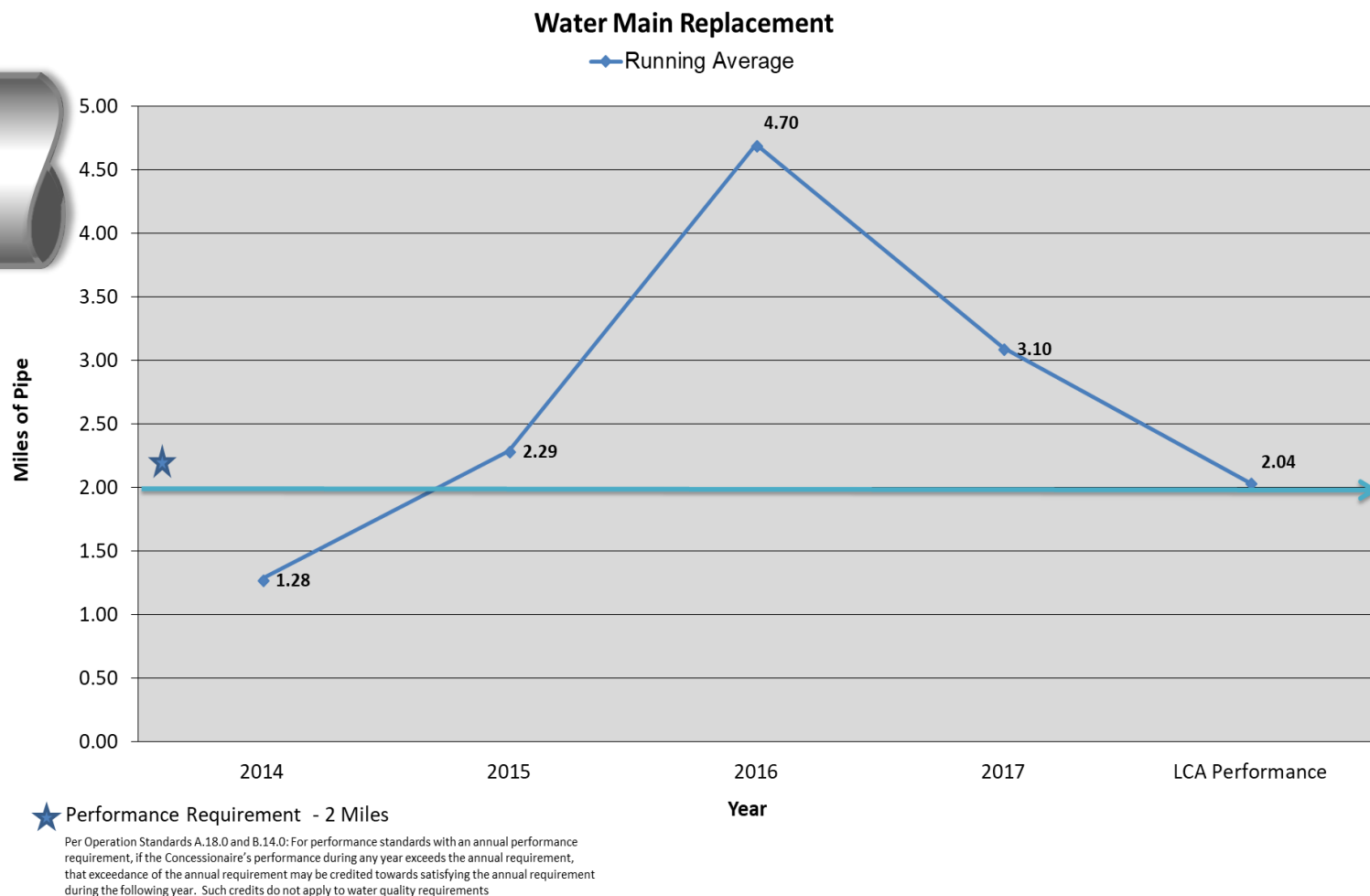
Metrics Update

Drinking Water Distribution System

Metrics Update

**0.94
Miles**

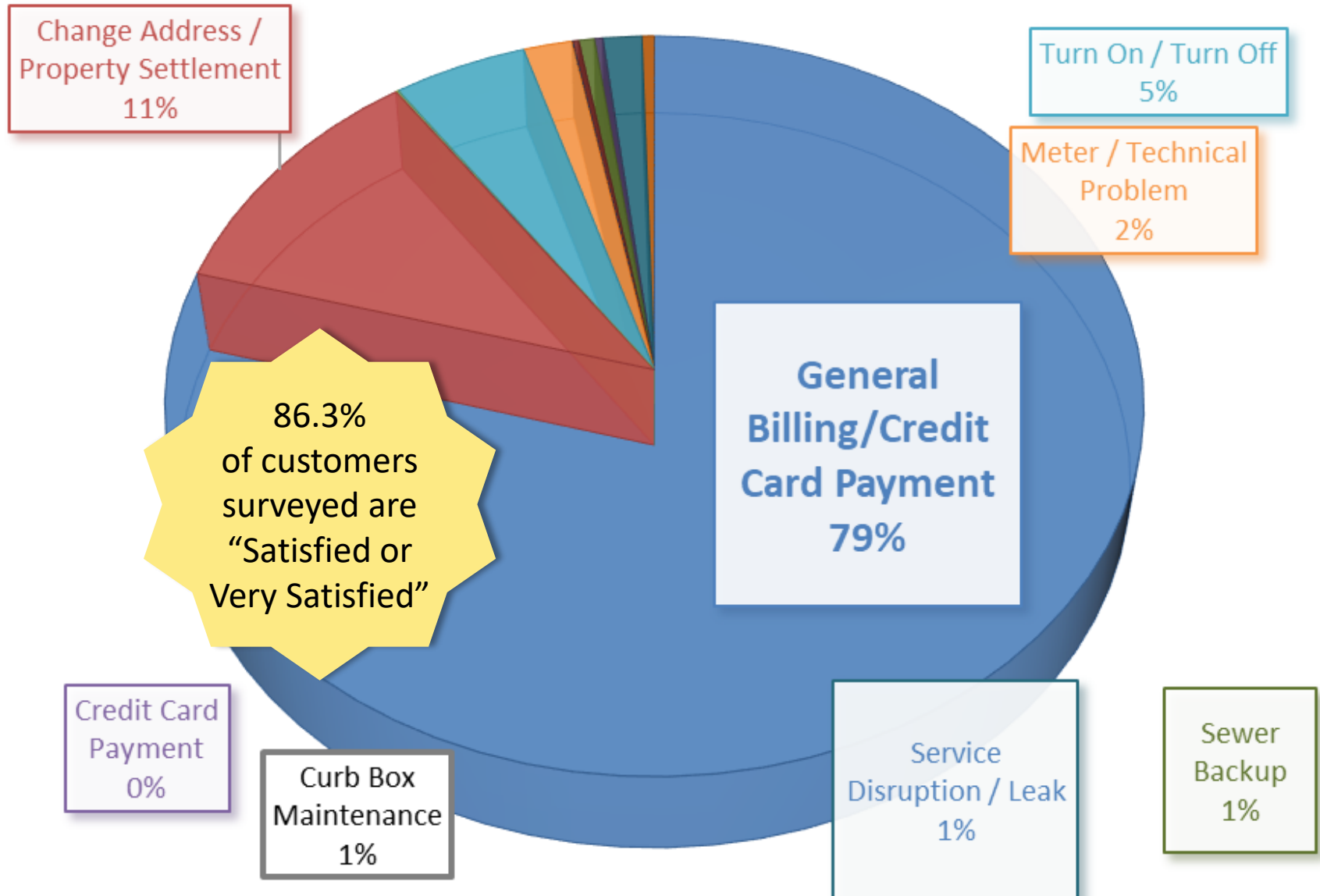
**of Water Main
replaced**



Notices of Violation

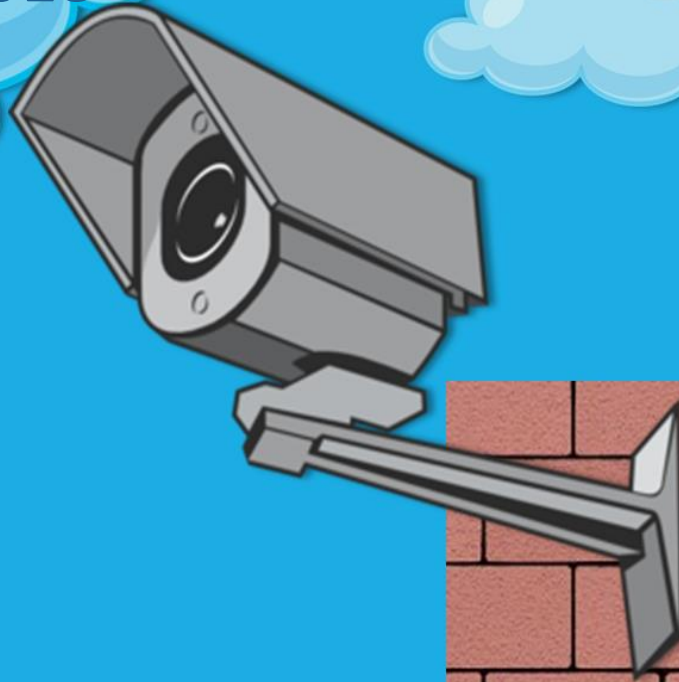


2018 CUSTOMER SERVICE CALLS



Security

No Security Breaches
Occurred in 2018



CHANGE of LAW

Change of Law is the impact of a means either (A) the enactment, adoption, promulgation, modification or repeal after the Bid Date of **any federal, state or local Law**, or the change in interpretation (as evidenced by a final official action of a Governmental Authority having jurisdiction or a decision of a court with jurisdiction over the subject matter and with respect to which no appeal is pending or may be taken) **after the Bid Date...**

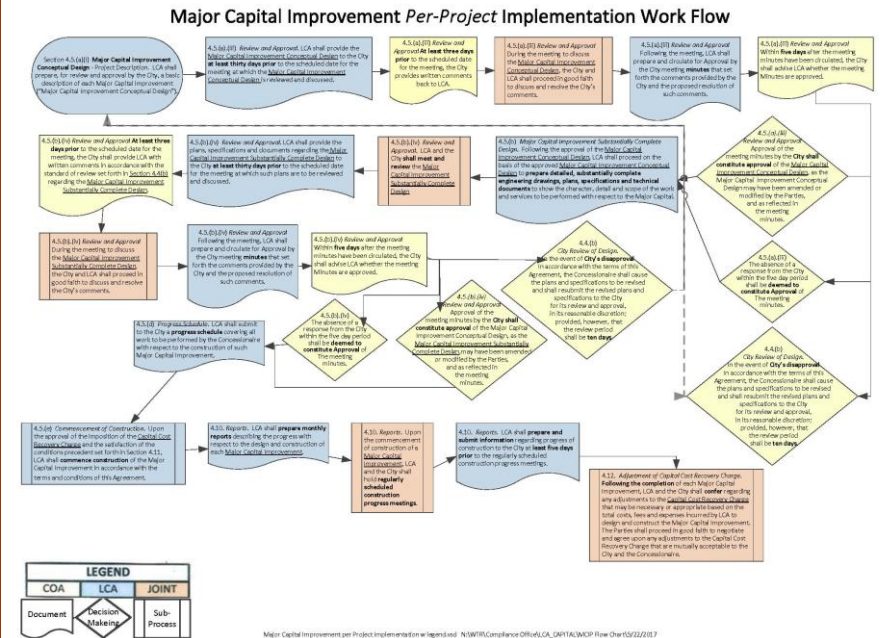
Section 7.1 Imposition of Service Charges

(g) Change of Law. The Schedule of Service Charges shall be subject to prospective **annual adjustment, upward or downward**, on account of any Change of Law in order to reflect any changed cost or expense related to the System and incurred by the Concessionaire as a result thereof, all as may be reasonably **agreed to by the City and the Concessionaire.**

CAPITAL PROJECTS

“Restoration Work” and “Uncompleted Work” is planned work not completed by the transfer date.

“Required Capital Improvements” “Schedule 7” are Major Capital Improvements required by the Concession Lease Agreement completed by 2018.



“Administrative Order Projects”
Projects planned to comply with
the Administrative Orders.

Major Capital Improvements are those projects, approved by the Office of Compliance which cost more than one million + CPIU (Consumer Price Index for Urban).

Distribution System Capital Projects

Cycle IV- Water Main Replacement Project



Cost: approx. 2,000,000.
Anticipated Completed: Dec 2018
Rate-Payer Capital Expense: 2020
Category: MCIP

Water Main Replacement

The Pipe Prioritization Assessment Program identifies mains that will need to be replaced using various sources of data: pipe age, break history, geology and ground subsidence history.



Wastewater Treatment Plant Capital Project - 2019

Replacement of Substation 2



Estimated Cost: \$2,847,500
Completed: Spring of 2019
Rate-Payer Capital Expense: 2020
Category: MCIP

QUESTIONS

